ESLINX
AV CONTROL SYSTEM

ES1552
User Information

This document contains technical data and connection details for the ESLINX ES1552 Analogue Control Module. Blank tables are also included on which to record connection and usage details for the Analogue Outputs and Switch Inputs.

For more detailed information, including the setting-up of internal parameters, please refer to the ESLINX User Guide (part no. ES1561/M) which is available separately from your distributor.

Project Details

Client	
Tel. No.	
Project Name	
Project Ref.	
No. of Units	

Analogue Outputs 1–8

Project Ref.: ______________

Input No.		Pin No.	Pin Function	Allocation or Function	Cable Ref.
Unit	System				
1		2	Output		
		3	0 Volts		
2		4	Output		
		5	0 Volts		
3		6	Output		
		7	0 Volts		
4		8	Output		
		9	0 Volts		
5		10	Output		
		11	0 Volts		
6		12	Output		
		13	0 Volts		
7		14	Output		
		15	0 Volts		
8		16	Output		
		17	0 Volts		
—	—	1	0 Volts		

(**Note:** *All outputs are variable 0 – 10 Vd.c. @ 10mA max. source or sink.*)

Analogue Outputs 9–16

Project Ref.: ______________

Input No.		Pin No.	Pin Function	Allocation or Function	Cable Ref.
Unit	System				
9		2	Output		
		3	0 Volts		
10		4	Output		
		5	0 Volts		
11		6	Output		
		7	0 Volts		
12		8	Output		
		9	0 Volts		
13		10	Output		
		11	0 Volts		
14		12	Output		
		13	0 Volts		
15		14	Output		
		15	0 Volts		
16		16	Output		
		17	0 Volts		
—	—	1	0 Volts		

(**Note:** *All outputs are variable 0 – 10 Vd.c. @ 10mA max. source or sink.*)

Switch Inputs 1–8

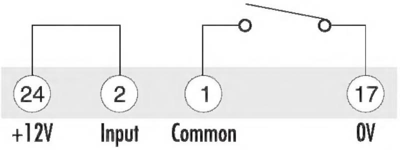
Project Ref.: ______________

Input No.		Pin No.	Pin Function	Allocation or Function	Cable Ref.
Unit	System				
1		2	Input		
		1	Common		
2		4	Input		
		3	Common		
3		6	Input		
		5	Common		
4		8	Input		
		7	Common		
5		10	Input		
		9	Common		
6		12	Input		
		11	Common		
7		14	Input		
		13	Common		
8		16	Input		
		15	Common		
—	—	17	0 Volts		
—	—	18	0 Volts		
—	—	24	12 Volts		
—	—	25	12 Volts		

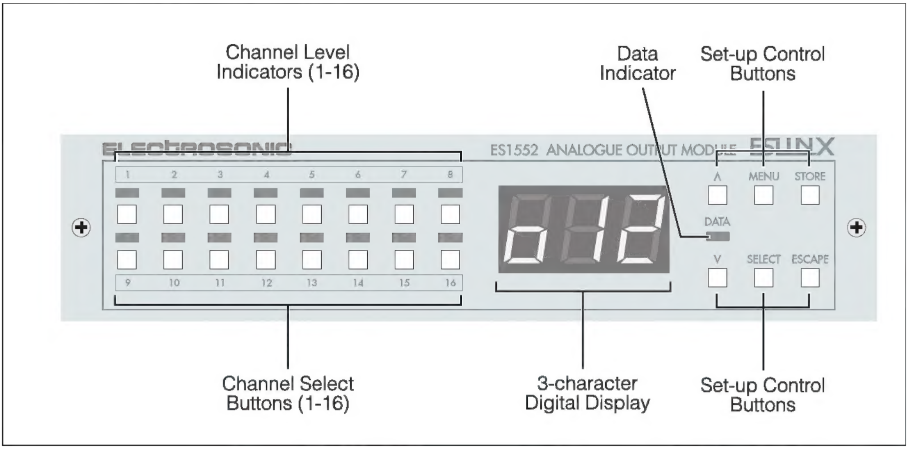
IMPORTANT NOTE

All switch inputs are opto-isolated — see diagram for example method of connection.

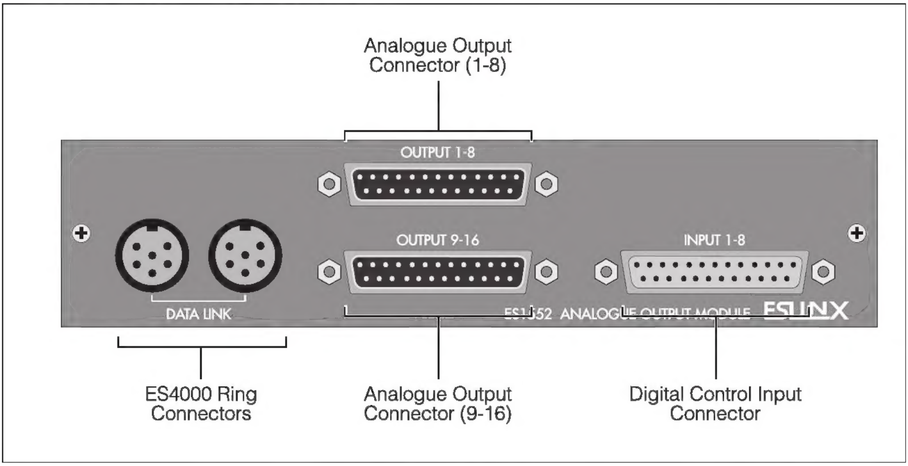
Example method for using SW1 input



Front Panel Features



Back Panel Connectors


Analogue Output Connector (1-8)
OUTPUT 1-8
OUTPUT 9-16
INPUT 1-8
DATA LINK
ES1552 ANALOGUE OUTPUT MODULE
ESLINX
ES4000 Ring Connectors
Analogue Output Connector (9-16)
Digital Control Input Connector

General Description

The ES1552 provides 16 analogue control outputs, each variable between 0V and 10V d.c. These outputs can be used to directly control a wide variety of devices from (*e.g.* electronic ballasts or dimmers), or via a suitable interface to control devices such as electric motors.

The output voltages are set using ES4000 protocol (from software packages such as **EASY+**and **BSC**). The ES1552 can also store 8 'scenes' of 16 channel levels which can be programmed and recalled using the ES4000 protocol. Each scene can also be recalled by remote switch closures.

Physical Details

Overall Dimensions:	177.0mm (W) x 288.0mm (D) x 40.5mm (H)	
Weight:	0.4kg.	
Operating Conditions:	Ambient temperature:	10 to 30C.
	Ambient humidity (max):	80% non-condensing.

Power Requirements

The ES1552 is designed to be installed in (and powered by) an ES1520, ES1550 or ES1560 enclosure. A suitable cable assembly is provided with the enclosure for connecting the module to the power supply.

Supply Voltages:	+5V d.c. @ 250mA;	
	+24Vd.c. @ 550 to 650mA; – 12Vd.c. @ 100 to 200mA.	*max. current depends on loading of* ±12V *lines*
Mating Connector :	6-pin (0.156" pitch) Molex® (5180 series).	
Connection Detail:	1 +24V d.c.	
	2 +5V d.c. 3 +5V d.c.	*pins linked internally*
	4 0V ground 5 0V ground	*pins linked internally*
	6 –12V d.c.	

Control Panel Overview

The ES1552 Module has various internal parameters which define its operating configuration. These are factory-set to the most commonly-used values but may be altered using the set-up control buttons on the front panel; settings are displayed on the 3-character digital display.

☞ Press **MENU** or **ESCAPE** to step forward or backward through the various menu modes/settings. To change the value of the displayed setting, use the ∧ or ∨ buttons. To select a parameter option press the **SELECT** button unless otherwise stated:

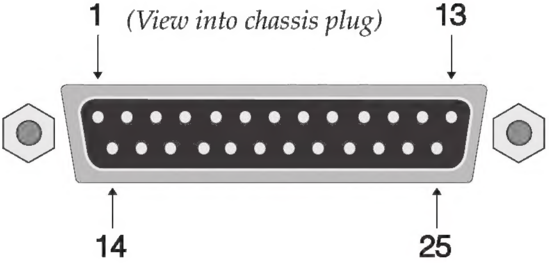
MENU MODES/SETTINGS	DEFAULT (or typical) DISPLAY SETTINGS	PARAMETER OPTIONS
Power-up Self Test **& Firmware Version**	8.8.8. u 1.0	
Address Mode	A00	A00 = chans 01–16 A01 = chans 17–32 A02 = chans 33–48 A03 = chans 49–64 A04 = chans 65–80 *....etc.* Press **STORE** to save.
Output Channel/Level Mode Channel Number (*e.g.* 3) Channel Level (*e.g.* 4.25V)	o03 4.25	Press Channel Select button 1–16 to change channel. Use the ∧ and ∨ buttons to manually adjust channel level.
Output Response Mode	o_L	o_L = Last level o_h = Highest level
Input Response Mode	i_L	i_L = Last event i_P = Priority event *(SW8 has highest priority)*

MENU MODES/SETTINGS	DEFAULT (or typical) DISPLAY SETTINGS	PARAMETER OPTIONS
Button Lock Mode **Note:** *to release button lock, turn the module off and back on again.*	i_U	i_U = Unlocked i_C = Locked
Scene Number/Levels Mode Scene Number (*e.g.* 7) Channel Level (*e.g.* 6.75V)	S07 6.75	Use ∧ or ∨ buttons to choose number. Press **SELECT** to recall the scene. Press Channel Select button 1–16 to view a channel level.
Baud Rate Mode	b19	b19 = 19200 b38 = 38400 b57 = 57600 b76 = 76800 b11 = 115200 Press **STORE** to save.
Diagnostic Mode	di0	*This feature is not yet implemented.*

Channel Level Indicators	These indicators show the relative levels of the sixteen analogue outputs by varying brightness (*i.e.* unlit when output is at zero; fully lit when output is at maximum).
Channel Select Buttons	These are used to select one of the 16 channels in order to view or change parameters for that particular channel.
DATA Indicator	Pulses ***green*** when a valid RS-232 command (ES4000 protocol) is being received via the **DATA LINK** connector. Pulses ***red*** six times (two bursts of three) when data or new set-up parameters are being saved to the internal memory. Continuously ***red*** during a fade. Flashes ***red*** continuously if an error is detected. Shows ***orange*** when both green or red indications occur simultaneously, and also during the initialisation sequence following power-up. Remains *off* at all other times.

Analogue Output Connector (OUTPUT 1-8 & 9-16)

There are two connectors which provide connections for channel outputs 1–8 and 9–16 respectively.


(View into chassis plug)

Mating Connector: 25-pin D-type (female) with metal cover [2 off].

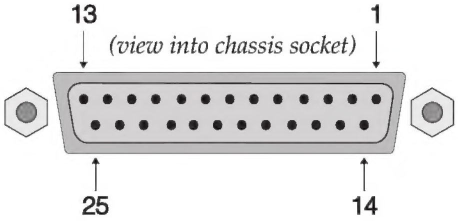
Pin-out Details:

1	0V	**14**	Ch7 *or* Ch15
2	Ch1 *or* Ch9	**15**	0V
3	0V	**16**	Ch8 *or* Ch16
4	Ch2 *or* Ch10	**17**	0V
5	0V	**18**	*No connection.*
6	Ch3 *or* Ch11	**19**	*No connection.*
7	0V	**20**	*No connection.*
8	Ch4 *or* Ch12	**21**	*No connection.*
9	0V	**22**	*No connection.*
10	Ch5 *or* Ch13	**23**	*No connection.*
11	0V	**24**	*No connection.*
12	Ch6 *or* Ch14	**25**	*No connection.*
13	0V	**Cover** = Screen.	

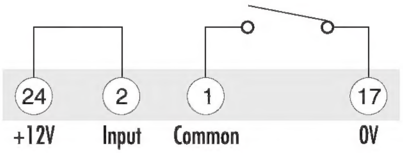
Output Voltage: 0 to +10V d.c.
Output Current: 10mA (source or sink).
Output Resolution: 12-bit.
Update (per channel): every 25ms.
Output Response: Last requested voltage *(default)*;
Highest requested voltage *(user set-up)*.

Digital Control Input Connector (INPUT 1-8)

This connector provides access to the eight switch-control inputs used for selecting 'scenes'. In addition, a 12V supply (internally limited to 200mA) and 0V connection are provided for use with the switch inputs. To activate an input connect its 'Input' terminal to +12V and 'Common' terminal to 0V. All 'Common' terminals are electrically isolated.



Example method using SW1 input



Mating Connector: 25-pin D-type (male) with metal cover.

Pin-out Details:	**1**	SW1 Common	**14**	SW7 Input
	2	SW1 Input	**15**	SW8 Common
	3	SW2 Common	**16**	SW8 Input
	4	SW2 Input	**17**	0V } *linked internally*
	5	SW3 Common	**18**	0V
	6	SW3 Input	**19**	*No connection.*
	7	SW4 Common	**20**	*No connection.*
	8	SW4 Input	**21**	*No connection.*
	9	SW5 Common	**22**	*No connection.*
	10	SW5 Input	**23**	*No connection.*
	11	SW6 Common	**24**	12V } *(linked internally)*
	12	SW6 Input	**25**	12V } *200mA maximum*
	13	SW7 Common	**Cover**	= Screen

Input Type: Opto-isolated.

Nominal Input Voltage: +12V *(w.r.t. SW Common connection).*

Absolute Input Range: +5V to +24V *(w.r.t. SW Common connection).*

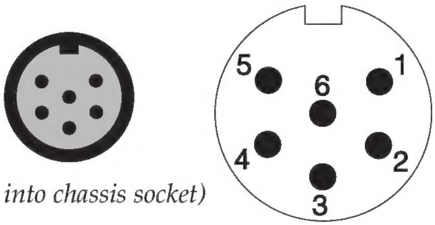
Input Current: 15mA @ 12V *(limited by internal 680Ω resistor).*

Input Priority: Last event *(default);*
Highest event (SW8 is highest) *(user set-up)*

Debounce Delay: 10 ms (approx.).

ES4000 Ring Connectors (DATA LINK)

These two connectors are used for RS-232 remote control applications using the Electrosonic ES4000 protocol. Both connectors are electrically and functionally identical to allow for 'link through' of data highways or 'rings'. For more details on ES4000 ring usage, please refer to the ESLINX User Guide (part no. ES1561/M).



(View into chassis socket)

Mating Connector: 6-pin DIN (male).

Pin-out Details:
1 RS-232 data out/thru.
2 +12V supply *(limited to 100mA).*
3 Link through.
4 –12V supply *(limited to 100mA).*
5 RS-232 data in/thru.
6 Ground (0V).
Casing = Screen

Recommended Cable: 6-core plus overall screen (low capacitance);
Min. Core Size: 0.22mm^2 per core.
Max. Cable Length: 50m *(total length of ring).*

Control Protocol (RS-232): ES4000 F-type, G-type, & g-type.
Max. Number of Nodes: 24 *(subject to application).*

IMPORTANT NOTE
When the cable is to be used to connect between two modules mounted in an ES1560 Twin Module Case, a ferrite bead must be fitted near to the plug at both ends of the cable.

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